Claims

[c1]   Wherefore, having thus described the present invention, what is claimed is:

1. A computer-implemented process for sharing images comprising the process actions of:

inputting images at a hosting client;

annotating said images with metadata at said hosting client;

creating a local index of said images and local database of said images at said hosting client;

synchronizing said hosting client's local index with a master index of a central server, said master index comprising all images available for sharing; and

providing images from said hosting client.

[c2]   2. The computer-implemented process of Claim 1 wherein the annotating process action further comprises a process action of manually annotating at least one of said input images.

[c3]   3. The computer-implemented process of Claim 1 wherein the annotating process action further comprises a process action of automatically annotating at least one of said input images.

[c4]

4.The computer-implemented process of Claim 1 wherein said process action of annotating at least one of said input images further comprises, at least one of:

annotating said image with the time it was created;

annotating said image with the location that it depicts;

annotating said image with a camera orientation when said image was captured;

annotating said image with the level of privacy associated with the image;

annotating said image with the author of the image;

annotating said image with its modification history;

annotating said image with its user rating;

annotating said image with an imputed location based on the time and location said image was created;

annotating said image with usage statistics;

annotating said image with any and all user annotations;

annotating said image with the owner of the metadata; and

annotating said image with metadata associated with the same image located in a different location.

[c5]　　　5. The computer-implemented process of Claim 4 wherein said process action of annotating said image with the time it was created comprises at least one of:

annotating said image with a time by using a date stamp provided by a camera that created the image;

annotating said image with a time by using a time stamp provided by a Global Positioning System integrated with the camera that created the image;

annotating said image with a time that was manually input by a user.

6. The computer-implemented process of Claim 4 wherein said process action of annotating said image with the location which it depicts comprises at least one of:

annotating said image with a location by using a location stamp provided by a Global Positioning System integrated with the camera that created the image;

annotating said image with a location by using a location stamp provided deriving a location from cell site location provided by a camera integrated with the camera that created the image;

annotating said image with a location by using a name-to-geolocation translation application that provides the location said image was captured;

annotating said image with a location derived from a map indicating where said image was taking; and

annotating said image with a location that was manually input by a user.

[c6]　　　7.The computer-implemented process of Claim 6 wherein location is provided in the format of latitude and longitude.

[c7]　　　8.The computer-implemented process of Claim 4 wherein the camera orientation is provided in the format of yaw, pitch and roll.

[c8]　　　9.The computer-implemented process of Claim 4 wherein the process action of annotating the privacy level of the image comprises the process action of annotating said image with a privacy level that is manually input by the user.

[c9]

10.The computer-implemented process of Claim 9 wherein the privacy level that is

manually input by a user further comprises the process action of selecting from a default setting of having the image accessible to only the user.

[c10]   11.The computer-implemented process of Claim 9 wherein the privacy level that is manually input by a user further comprises the process action of selecting from a default setting of having the image accessible to all users.

[c11]   12.The computer-implemented process of Claim 4 wherein the process action of annotating the image with an image modification history comprises at least one of: annotating said image with annotation data as to how it was modified; annotating said image with annotation data as to when it was modified; annotating said image with annotation data as to by whom it was modified; and annotating said image with any other modifications made to annotation data made at the time of modification.

[c12]   13.The computer-implemented process of Claim 4 wherein the process action of annotating the image with a server-provided user rating comprises the process action of annotating said image with an indication as to how closely said image matched a search criteria.

[c13]   14. The computer-implemented process of Claim 3 wherein the process action of automatically annotating an image further comprises at least one: using face recognition techniques to identify a specific person in the image and annotating the image with an identifier for the person; using automated vision techniques to determine whether the image depicts a natural or man-made object and annotating the image as either natural or man-made; using pixel comparison techniques with images of known content and comparing the image to determine its content and annotating said image as to what it is; and extracting available parameters associated with the input image and annotating the image with the available parameters.

[c14]

15.The computer-implemented process of Claim 4 wherein the process action of annotating said image with usage statistics further comprises at least one of: annotating the image with how often the image was posted to a website;

annotating the image with the times the image was posted to a website;

annotating the image with the number of times the image was emailed;

annotating the image with how relevant the image was found to be in a search; and

annotating the image as to how many times it was requested.

[cl5]   16. The computer-implemented process of Claim 4 wherein the process action of annotating the image with an imputed location further comprises the process actions of:

identifying the time and location said image was created;

identifying other images taken close to the same time and with the same camera when said image was created;

imputing to said image the location of said other images taken at close to the same time; and

annotating said image with said imputed location.

[cl6]   17. The computer-implemented process of Claim 4 wherein the process action of annotating said image with metadata associated with the same image located in a different location further comprises the process actions of:

locating the same image as said image in other locations;

extracting all annotation data from said same image in said other location;

annotating said image with said annotation data extracted from said image in said other location.

[cl7]   18. The computer-implemented process of Claim 1 wherein the process action of synchronizing further comprises the process actions of:

storing changes to local index and local database of said images at said hosting client in a modification log;

periodically connecting said hosting client to said central server; and

synchronizing said local index and said local database of said hosting client with said master index of said central server using said modification log.

[cl8]   19. A computer-implemented process for sharing images comprising the process actions of:

receiving at a central server a search query formatted using annotation data describing an image from a requesting client, said server hosting a master index of

all images available for sharing;

searching said master index at said central server *using annotation data provided in said search query and obtaining a result;* and

sending said search result from said central server to said requesting client.

[c19]   20. The computer-implemented process of Claim 19 further comprising the process action of receiving feedback from said requesting client at said central server as to how well the images in the search result matched the search query.

[c20]   21.The computer-implemented process of Claim 20 further comprising the process action of using a user-rating annotation to weight an image's relevance in future searches.

[c21]   22.The computer-implemented process of Claim 19 wherein the process action of receiving a search query comprises at least one process action of:
receiving a search query from a requesting user said search query employing a user identifier, to locate all images owned by a certain user;
receiving a search query from a requesting user said search query employing location and/or time, to locate all images created in a given time span or at a given location, or created in a given time span and a given location;
receiving a search query from a requesting user said search query employing an event name; and
receiving a search query from a requesting user said search query employing a keyword.

[c22]   23. The computer-implemented process of Claim 22 wherein the process action of receiving a search query employing an event name further comprises the process actions of:
creating a table associating event name with location and time said event occurred;
processing a search query using location and time to identify said associated event name; and
processing a search query using event name to identify event time and location.

[c23]

24. The computer-implemented process of Claim 22 wherein the process action of receiving a search query employing a keyword further comprises at least one of:

using automatic keys identifying if the image was taken indoor versus outdoor, and using automatic keys identifying if the image was depicts something natural versus something man-made.

[c24]   25. The computer-implemented process of Claim 19 wherein the search result includes at least one of:
annotation data associated with each image found in the search result;
a thumbnail view of the image found in the search result;
a relevancy score of the image to the search query; and
an indication as to whether the image is available on a network, and if not the last time it was available.

[c25]   26. The computer-implemented process of Claim 19 wherein the process action of returning a search result further comprises a process action of using annotation data to limit access to an image identified in a search as meeting the search criteria, by not returning said image to said requesting client.

[c26]   27. The computer-implemented process of Claim 19 further comprising the process actions of:
receiving a request from said requesting client for at least one desired image identified in said search of said central server's master index;
sending a notification from said central server to a client hosting said at least one desired image to load said requested image to an on-line cache;
loading said desired image to an on-line cache by said hosting client;
downloading said requested image from said cache by said requesting client.

[c27]   28. The computer-implemented process of Claim 19 further comprising the process actions of:
receiving a request from said requesting client for at least one desired image identified in by said search of said central server's master index;
retrieving said at least one desired image from a master image database residing on said central server and correlating with said master index;
sending said at least one desired image to said requesting client from said central server.

[c28]   29.The computer-implemented process of Claim 19 further comprising the process
actions of:

receiving a request from said requesting client for at least one desired image
identified in said search of said central server's master index to be sent to a
receiving client;

retrieving said at least one desired image from a master image database residing
on said central server and correlating with said master index;

formatting said at least one desired image to automatically appear on said
receiving client's computer display;

sending said at least one desired image to said receiving client from said central
server.

[c29]   30.The computer-implemented process of Claim 29 wherein said formatted at
least one desired image appears as a screen-saver on a computer display of said
receiving client.

[c30]   31.The computer-implemented process of Claim 19 further comprising the process
actions of:

receiving a request from said requesting client for at least one desired image
identified in by said search of said central server's master index;

verifying that said requesting client and a client hosting said at least one desired
image are both on-line on a network;

sending a notification from said central server to a client hosting said at least one
desired image to send said requested image to said requesting client.

[c31]   32.The computer-implemented process of Claim 31 further comprising the process
action of said hosting client sending said at least one desired image to a
requesting client.

[c32]   33.The computer-implemented process of Claim 19 further comprising the process
actions of:

adding and removing images from the master index to coincide with changes made
to a local index of images belonging to a client hosting said images using a
modification log depicting changes made to said local index of said hosting client;
and

updating said annotation data of images listed on said master index using said modification log.

[c33]   34.A computer-readable medium having computer-executable instructions for transferring images, said computer executable instructions comprising:
inputting images at a first client;
annotating said images with metadata;
creating a local index of said images and local database of said images at said first client;
synchronizing said first client's local index with a master index of a central server, said master index comprising all images available for sharing.

[c34]   searching by a second client of said central server's master index for a particular image using said metadata;
returning a search result from said central server to said second client; and
coordinating the transfer of a desired image found in said search result from said first client to said second client.

[c35]   35.The computer-readable medium of Claim 33 wherein the computer-executable instructions for returning a search result further comprises a process action of using metadata to limit access to an image identified in a search as meeting the search criteria by not returning said image in said search result.

[c36]   36.The computer-readable medium of Claim 34 wherein the computer-executable instructions for coordinating said transfer of the image further comprises:
requesting at least one image by said second client from said central server's master index;
sending a notification by said central server to said first client to load said requested image to an on-line cache;
loading said requested image to said on-line cache by said first client;
downloading said requested image from cache by said second client.

[c37]

37.A system for transferring files, the system comprising:
a general purpose computing device; and
a computer program comprising program modules executable by the computing

device, wherein the computing device is directed by the program modules of the computer program to,

input files at a first client;

annotate said files at said first client;

create a local index of said files and a local database of said files at said first client;

synchronize said first client's local index with a master index of a central server, said master index comprising all files available for sharing;

search by a remote client of said central server's master index for a particular file using said annotated data;

return a search result from said central server to said remote client; and

transfer a desired file found in said search result to said remote client.

[c38]   38.The system of Claim 37 wherein the computer module to annotate said file further comprises sub-modules to:

locate the same file as said file in other locations;

extract all annotation data from said file located in said other locations;

annotate said file with said annotation data extracted from said file in said other locations.

[c39]   39.The system of Claim 37 wherein the computer module to return a search result further comprises a sub-module to use annotation data to limit access to a file identified in a search as meeting a search criteria by not returning said image data in said search result.

[c40]   40.The system of Claim 37 wherein the computer module to transfer a file further comprises sub-modules to:

request at least one file by said remote client from said central server's master index;

send a notification from said central server to said first client to load said requested file to an on-line cache;

load said requested file to said on-line cache by said first client;

download said requested file from said on-line cache by said remote client.

[c41]   41.A computer-implemented process for sharing images comprising the process actions of:

inputting images at a hosting client;

annotating said images with metadata at said hosting client;

creating a local index of said images and local database of said images at said hosting client;

providing images from said hosting client.

[c42]   42.The computer–implemented process of Claim 41 wherein said process action of annotating said input image further comprises, at least one of:

annotating said image with the time it was created;

annotating said image with the location that it depicts;

annotating said image with the level of privacy associated with the image;

annotating said image with the author of the image;

annotating said image with its modification history;

annotating said image with its user rating;

annotating said image with an imputed location based on the time and location said image was created;

annotating said image with usage statistics;

annotating said image with any and all user annotations;

annotating said image with the owner of the metadata; and

annotating said image with metadata associated with the same image located in a different location.

[c43]   43. The computer–implemented process of Claim 42 wherein said process action annotating said image with the location which it depicts comprises at least one of:

annotating said image with a location by using a location stamp provided by a Global Positioning System integrated with the camera that created the image; annotating said image with a location by using a location stamp provided deriving a location from cell site location provided by a camera integrated with the camera that created the image; annotating said image with a location by using a name-to-geolocation translation application that provides the location said image was captured;

annotating said image with a location derived from a map indicating where said image was taking; and

annotating said image with a location that was manually input by a user.

[c44]   44.The computer-implemented process of Claim 42 wherein the process action of annotating the image with an imputed location further comprises the process actions of:

identifying the time and location said image was created;

identifying other images taken close to the same time and with the same camera when said image was created;

imputing to said image the location of said other images taken at close to the same time with a same camera; and

annotating said image with said imputed location.

[c45]   45.The computer-implemented process of Claim 41 further comprising the wherein the process action of annotating said image with metadata associated with the same image located in a different location further comprises the process actions of:

locating the same image as said image in other locations;

extracting all annotation data from said same image in said other location;

annotating said image with said annotation data extracted from said image in said other location.

[c46]   46. A computer-implemented process for sharing images comprising the process actions of:

receiving at a image hosting client a search query of a local image index formatted using annotation data describing an image from a requesting client, said local image index containing a list of all images available for sharing by said hosting client;

searching said local image index at said hosting client using annotation data provided in said search query and obtaining a result; and

sending said search result from said hosting client to said requesting client.

[c47]

47.The computer-implemented process of Claim 46 wherein the process action of receiving a search query comprises at least one of:

receiving a search query from a requesting client said search query employing a user identifier, to locate all images created by a certain user;

receiving a search query from a requesting user said search query employing

location and/or time, to locate all images created in a given time span or at a given location, or created in a given time span and a given location;

receiving a search query from a requesting user said search query employing an event name; and

receiving a search query from a requesting user said search query employing a keyword.

[c48]   48. The computer-implemented process of Claim 47 wherein the process action of receiving a search query employing an event name further comprises the process actions of:

creating a table associating event name with location and time said event occurred; and

processing a search query using location and time to identify said associated event name.

[c49]   49. The computer-implemented process of Claim 47 wherein the process action of receiving a search query employing an event name further comprises the process actions of:

creating a table associating event name with location and time said event occurred; and

processing a search query using event name to identify event time and location.

[c50]   50.The computer-implemented process of Claim 46 wherein the process action of returning a search result further comprises a process action of using annotation data to limit access to an image identified in a search as meeting the search criteria.

[c51]   51.The computer-implemented process of Claim 46 wherein the process action of providing images further comprises:

receiving a request from said requesting client for at least one desired image identified in by said search of said local image index;

sending said requested image to said requesting client.

[c52]

52.The computer-implemented process of Claim 46 wherein the process action of providing images further comprises formatting and sending said requested image

such that it appears as a screen-saver on said receiving client's computer display.

[c53]   53.The computer-implemented process of Claim 46 wherein the process action of sending said search result further comprises sizing said requested image as requested by said receiving client.

[c54]   54.The computer-implemented process of Claim 46 wherein the process action of sending said search result further comprises requiring a requesting client to authenticate their identity before returning a search result.